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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,843	06/29/1999	JARNO KNUUTILA	200-008782-U	7170

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ANTONELLI TERRY STOUT AND KRAUS  
SUITE 1800  
1300 NORTH SEVENTEENTH STREET  
ARLINGTON, VA 22209

EXAMINER

CHOW, CHARLES CHIANG

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 11/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/342,843

Applicant(s)

KNUUTILA ET AL.

Examiner

Charles Chow

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,21,22,24-39,41 and 42 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

- 6) ☒ Claim(s) 1,2,4-9,21,22,24-39,41 and 42 is/are rejected.

- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**Office Action for  
Applicant's Amendment  
(9/9/2002)**

1. Regarding applicant's amendment for the amendment based on the argument for the no teaching of the controlling of the transmitter power amplifier; the monitoring criteria of the heat generated from the burst in the frames; the comparing of the amplifier output power with the maximum level, when exceeding the maximum, the output power is decreasing by changing the power classmark; Kosugi et al.-'789 teaches the counters 1001/1002 for monitoring of the number of burst and controlling the transmitter power output in a loop (figure in cover page, the monitor circuit 4 of the output power level, the sample hold circuit 8, the differential amplifier 7, the burst control circuit 10, and in the abstract, summary of invention). The modulated carrier signal and burst timing controller are performing of the burst monitoring for providing the burst control via sample hold circuit to control the power output for amplifier 3 (figure in cover page, abstract, summary of invention; col. 10, lines 30-35).

Patent to Kiem et al.-'820 teaches the portable radiotelephone adjusts its transmit power for the antenna position in the extended or retracted position, when transmitter power from the antenna is exceeding the maximum authorized power, for changing the power classmark ,according to EIA standard table 2.1.2-1, in between classes 1-3 (abstract, figure in cover page, col. 17, line 64 to col. 18, line 24; col. 18, line 51 to col. 19, line 35).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (US 5,519,886) in view of Funk (US 6,169,884 B1), and further in view of Kosugi et al. (US 5,369,789).

Regarding **claim 1**, Gilbert discloses a method and apparatus for controlling a transmitter of a portable radio communication apparatus (title, abstract, Fig. 2, transmitter 242, temperature sensor 246) for communication in a radio communication network (TDMA network, col. 1, line 36) employing transmission by a plurality of carrier frequencies (establishing wireless radio frequency carrier, col. 2, line 15; manipulation of the operation of the data communication protocol 120 using temperature information, col. 2, lines 24-30; col. 3, line 42-54).

Gilbert discloses the frames (data packets) each consisting of a predetermined number of time slots (col. 3, line 37) and the transmitter transmitting data burst during one or more of said time slots in the frame (col. 3, lines 16-41, packet data protocol; different channels; preferred time slots; protocol parameters).

Gilbert does not clearly indicate the details clearly enough for the controlling of the transmitter output, although Gilbert discloses the controlling the operation transmission protocol, the transmission rate, the transmission delay, the reducing period to avoid the continuous transmission, the segmenting data messages into smaller packets.

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Funk teaches the method and apparatus for system (col. 6, line 20) for monitoring at least one criterion associated with heat generated by the transmitter (monitoring the temperature, and output power of the power amplifier 111, abstract, front figure; CDPD packet data, col. 2, line 32).

Funk teaches the providing a signal responsive to the at least one monitored criterion (temperature, transmission power level) for reducing the transmitter output power (abstract).

Besides, Funk also teaches the inserting of the brief transmission pause cycle in the data transmission stream to reduce the transmitter's overheating (abstract, col. 5, lines 33-35).

Funk also teaches the reducing the transmission duty cycle (col. 5, lines 13), and the control signal to back-off transmitter's output power to lower level (col. 3, lines 48-67). It is apparently obvious to include the reducing transmission power level to avoid the transmitter's overheating. By doing so, the transmitter could be protected from damage by controlling of the transmitter's output power or inserting the pause period to reduce the transmission period. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Funk's temperature/power level monitoring, the reducing transmitter's output power level, and the inserting back-off brief pauses period, to Gilbert, such that the transmitter could be protected from damage.

In the above it does not clearly indicate the monitored criterion comprising the number of transmitted data bursts in frame.

Kosugi et al.-'789 teaches the controlling of the burst transmitter power output in a loop (figure in cover page, the monitor circuit 4 of the output power level,

the sample hold circuit 8, the differential amplifier 7, the burst control circuit 10, and in the abstract, summary of invention). The modulated carrier signal and burst timing controller are performing of the burst monitoring for providing the burst control via sample hold circuit to control the power output for amplifier 3 (figure in cover page, abstract, summary of invention; col. 10, lines 30-35, fig. 1-4). Kosugi considers the solution for using counter 1001/1002 for controlling the burst power, inherently if not obvious, would monitoring the number of burst. It is apparently obvious to include Kosugi's monitoring of the number burst using counter, to Gilbert as modified above, such that the power level control could be upgraded by controlling the power level according to the burst monitoring result. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Kosugi's monitoring of the burst signal for controlling of the transmitter output power level, to Gilbert as modified above, such that transmitter power output could be adjusted according to the burst monitoring result.

Regarding **claim 2**, referring to the examiner's comment in claim 1 above, Gilbert (Fig. 2, temperature sensor 246, also thermistor 115 from Funk, provides the monitoring of the temperature of the transmitter.

Regarding **claim 4**, it has shown above in claim 1, Funk teaches the monitoring of the transmitter temperature and reducing the transmitter output power level.

Regarding **claim 5**, it has been shown above in claim 1, Funk has taught the back-off the transmitter output power level from high power level to the lower power level (col. 3, lines 48-67). Also, in below Mazur teaches the power control using the predetermined first/second

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power level.

3. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Funk, Kosugi, and further in view of GSM 04.08 version 4.19.1 (ETS 300,557).

In the above, Funk has taught the reducing of the transmitter output power. However, Funk does not indicate clearly enough for changing the maximum power classmark.

Regarding **claim 6**, GSM 04.08 (page 51, section 3.4.9.2, the abnormal cases; sections 3.4.10-3.4.12) teaches the procedure for the changing of the power classmark from mobile request. It's obvious apparent to include the flexibility of changing the power classmark for the transmitter in the abnormal situation. By doing so, the transmitter could reduce the heat to be building up by reducing the power class mark. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add GSM 04.08's mobile request for changing the power classmark and the changing procedure, to Gilbert as modified above, such that the mobile station could change the power classmark due to abnormal, temperature, situation.

Regarding **claim 7**, referring to claim 3 above for the monitoring of the smaller packet segmenting for decreasing the transmitter's temperature.

Regarding **claim 8**, Gilbert has shown in claim 1 above, the comparing, exceeding the packet size in the protocol, and the modifying, segmenting, the packet data into smaller packet size.

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Regarding **claim 9**, Gilbert has shown above the communication device 200 performs the monitoring step.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Funk, Kosugi, and further in view of Mazur et al. (US 6,072,792).

In the above, it does not include the network performs the monitoring.

Regarding **claim 10**, Mazur teaches network (base station 32) performs the monitoring of the transmitter's power output level for controlling, scheduling, the base station's power level in a time slot-by time slot basis (title, abstract, col. 1, lines 11-17, col. 6, line 33-38, col. 11, line 30-58, col. 4, lines 37-40; the symbol offset less than a selected number symbols, col. 12, lines 1-7). The downlink power control on a time slot-by time slot basis (col. 3, line 42-26) could apparently improve the downlink burst performance for the communication link (col. 3, lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Mazur's monitoring of the slot power level by base station 32, to Gilbert as modified above, such that the base station could communicate well with the mobile station by controlling the downlink burst slot power level.

5. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Funk, Kosugi, and further in view of Fujiwara et al. (US 6,091,741).



In the above, it does not clearly enough for the details of the comparing of the predetermined limit of the burst.

Regarding **claim 11**, Fujiwara teaches the comparing the monitored number with a predetermined limit (alpha 1/2, front figure, abstract) and changing the operation of the transmitter if the monitored number falls outside the predetermined limit (abstract, claim 3, 5), in order to avoiding the collision (title) by changing the contention mode for slave station to the polling mode. By doing so, the master station could schedule the transmission request by changing the slave station's contention mode to the scheduled polling mode to avoid the transmission collision. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Fujiwara's monitoring/calculating of the amount of the data transmission; the alpha 1/2 limits for switching the transmission modes, to Gilbert as modified above, such that system could avoid the data collision.

In the above, it has shown the disclosure for a method for controlling a transmitter; plurality of frequencies; time slots; monitoring of the burst in the frame; exceeding the protocol packet size therefore, modifying communication protocol, segmenting message into the smaller packet size from Gilbert.

Regarding **claim 12**, Gilbert discloses the monitoring is performed over time periods for previous transmission (col. 3, lines 9-11), the pre-determined number packet size from the data communication protocol.

Regarding **claim 13**, referring to the examiner's comments above in claim 3 for the controlling of the transmitter's output power.

Regarding **claim 14**, referring to claim 6 above for the changing power classmark.

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Regarding **claim 15**, Gilbert discloses the monitoring of the transmitter's temperature and response to the monitored temperature data to control the number of the data packet size.

Regarding **claim 16**, referring to the examiner's comment in claims 3, 8 above for the decreasing the number of burst packet to smaller packet size, and the exceeding of the predetermined packet size in the communication protocol.

Regarding **claim 17, 18**, referring to the examiner's comment in claim 9, the monitoring is performed by the communication device 200; and the monitoring is performed by the network's base station 32.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Funk, Kosugi, and further in view of Kiem et al. (US 5,815,820).

Regarding **claim 19**, referring to examiner's comments in claims 1, 4, 6 for a method for controlling a transmitter; plurality of frequencies, time slots, monitoring power level; the comparing the monitored power.

Regarding the changing the maximum allowed transmission power level; the monitored transmission power level is compared with pre-determined level, if the monitored power level is above the predetermined level, then, maximum allowed power level is decreased by changing the power classmark; Kiem teaches the above features for the portable radiotelephone to adjust its transmit power for the antenna position in the extended or retracted position, when transmitter power from the antenna is exceeding the maximum authorized power, for changing the power classmark ,according to EIA standard table 2.1.2-

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1, in between classes 1-3 (abstract, figure in cover page, col. 17, line 64 to col. 18, line 24; col. 18, line 51 to col. 19, line 35). It is apparent obvious to include Kiem's transmitter power is over the maximum allowed level, and changing the reducing the power class from high class to lower class to Gilbert, such that the maximum allowable power could be flexibly for a reasonable change of the power classmark of the transmitter. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Kiem's transmitter power is over the maximum allowed level, and changing the reducing the power class from high class to lower class, to Gilbert as modified above, such that the system could be flexible for changing the power classmark for adjust the transmitter output power to improve the transmitter's heating up problem.

7. Claims 21-22, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Funk, Kosugi, and further in view of GSM 04.08 (ETS 300,557).

Regarding **claim 21**, referring to the examiner's comment above in claim 1 for the system and the apparatus in a radio network having frequencies, time slots, burst, for monitoring at least one criteria associated with the heat, and at least one output criterion of the transmitter (output power, packet size, delay, transmit period) being responsive to the monitored criterion. Regarding the amended portion, referring to claim 1 above.

Regarding **claim 22**, referring to the examiner's comments in claim 2 above for the system and the temperature of the transmitter.

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Regarding **claim 23**, referring to the examiner's comments in claim 3 above for the system and the number of bursts in a frame.

Regarding **claim 24**, referring to the examiner's comments in claim 4 above for the system for the transmitter power output.

Regarding **claim 25**, referring to the examiner's comments in claim 5 above for the system and the exceeding a predetermined limit then decreasing the transmitter power level. Also, in claim 6 it showed the exceeding the power classmark and GSM 04.08 has the procedure to change the transmit power output level.

Regarding **claim 26**, referring to the examiner's comments in claim 6 above for the system and the decreasing, changing, of the power classmark.

Regarding **claim 27**, referring to the examiner's comments in claim 1 above for the system and output criterion comprising the number of burst in a frame (modify the burst packet size for a smaller size).

Regarding **claim 28**, referring to the examiner's comments in claim 8 above for the system and the exceeding a predetermined limit data amount (Fujiwara); the exceeding of the predetermined packet size limit of the communication protocol and segmenting the packet size into smaller size (Gilbert).

Regarding **claim 29**, referring to the examiner's comments in claims 1, 9 above for the system and the communication device 20 including the monitoring means.

Regarding **claim 30**, referring to the examiner's comments in claim 10 above for the system and the network (base station 32) including the monitoring means.

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7. Claims 31-39, 41, 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Funk, Kosugi, and further in view of Fujiwara.

Regarding **claim 31**, referring to the examiner's comments in claims 1, 3, 11 above for the system; the network; the frequencies; the slots; the burst; the monitoring; the changing of the operation of the transmitter's communication protocol; the comparing of the predetermined limit.

Regarding **claim 32**, referring to the examiner's comments in claims 12 above for the system and the predetermined period of time or predetermined number of frames.

Regarding **claim 33, 34, 35**, referring to the examiner's comments in claims 1, 14 above for the system and the processor (controller 210, Gilbert) controlling of the power output; the changing of the power classmark via mobile request of the GSM procedure; the controlling of the burst by changing segmenting into smaller packet size.

Regarding **claim 36**, referring to the examiner's comments in claim 1 above for the system and the monitoring number of burst to decreasing the bursts by segmenting the packet size into smaller size.

Regarding **claim 37, 38**, referring to the examiner's comments in claims 1, 9, 10 above for the system and the apparatus/network for monitoring, comparator for comparing, the processor.

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Regarding **claim 39**, referring to the examiner's comments in claims 1-14 above for the system and the means for monitoring; the comparing with the predetermined; the processing to change the maximum power level; the decreasing, changing of the power classmark.

Regarding the amended portion for claim 39, referring to claim 19 above.

Regarding **claim 41**, referring to the examiner's comments in claim 1 above for the apparatus and the network, the predetermined number of time slots in the communication protocol, the monitoring heat, temperature, the responsive to the monitored criterion.

Regarding **claim 42**, referring to the examiner's comments in claims 1, 14 above for the method and the network, the frequencies, the bursts in the time slots, the apparatus registering, changing, the power classmark with the GSM procedure for the mobile request for changing the power classmark of the communication 200.

***Response to Arguments  
And  
Conclusion***

8. Applicant's arguments with respect to claims 1, 2, 4-19, 21-22, 24-39, 41, 42 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's amendment the amendment based on the argument for the no teaching of the controlling of the transmitter power amplifier; the monitoring criteria of the heat generated from the burst in the frames; the comparing of the amplifier output power with the maximum level, when exceeding the maximum, the output power is decreasing by changing the power classmark; Kosugi et al.-'789 teaches the counters 1001/1002 for controlling the transmitter power output in a loop would inherently if not obvious to monitor the number of burst (figure in cover page, the monitor circuit 4 of the output power level, the

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sample hold circuit 8, the differential amplifier 7, the burst control circuit 10, and in the abstract, summary of invention). The modulated carrier signal and burst timing controller are performing of the burst monitoring for providing the burst control via sample hold circuit to control the power output for amplifier 3 (figure in cover page, abstract, summary of invention; col. 10, lines 30-35).

Patent to Kiem et al.-'820 teaches the portable radiotelephone adjusts its transmit power for the antenna position in the extended or retracted position, when transmitter power from the antenna is exceeding the maximum authorized power, for changing the power classmark ,according to EIA standard table 2.1.2-1, in between classes 1-3 (abstract, figure in cover page, col. 17, line 64 to col. 18, line 24; col. 18, line 51 to col. 19, line 35).

In view of the disclosures, the arguments are moot and claims 1, 2, 4-19, 21-22, 24-39, 41, 42 are remaining in the rejection manner.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter, can be reached at (703)-308-6732.

Any response to this action should be mailed to:

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Washington, D.C. 20231

or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

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Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow

October 21, 2002.

  
WILLIAM CUMMING  
PRIMARY EXAMINER  
GROUP 2600